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**\*File 6: See HELP CODES6 for a short list of the Subject Heading Codes (SC=, SH=) used in NTIS.**

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File 65: Inside Conferences 1993-2001/Dec W1

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**\*File 65: For variance in UD's please see Help News65.**

File 71: ELSEVIER BIOBASE 1994-2001/Dec W1

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File 73: EMBASE 1974-2001/Nov W4

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**\*File 73: For information about Explode feature please see Help News73.**

File 76: Life Sciences Collection 1982-2001/Nov

(c) 2001 Cambridge Sci Abs

**\*File 76: UD's have been manually adjusted to reflect the current months data. There is no data missing.**

File 94: JICST-EPlus 1985-2001/Oct W4

(c) 2001 Japan Science and Tech Corp(JST)

**\*File 94: There is no data missing. UD's have been adjusted to reflect the current months data. See Help News94 for details.**

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(c) 2001 The HW Wilson Co.

File 143: Biol. & Agric. Index 1983-2001/Sep

(c) 2001 The HW Wilson Co

File 144: Pascal 1973-2001/Dec W1

(c) 2001 INIST/CNRS

File 155: MEDLINE(R) 1966-2001/Dec W5

File 172: EMBASE Alert 2001/Dec W1

(c) 2001 Elsevier Science B.V.

File 266: FEDRIP 2001/Oct

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(c) 2001 DECHEMA

**\*File 358: Updates delayed. Please see HELP NEWS 358 for details.**

File 369: New Scientist 1994-2001/Nov W4

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File 370: Science 1996-1999/Jul W3

(c) 1999 AAAS

**\*File 370: This file is closed (no updates). Use File 47 for more current information.**

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(c) 2001 AMERICAN CHEMICAL SOCIETY

**\*File 399: Use is subject to the terms of your user/customer agreement.**

RANK charge added; see HELP RATES 399.

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(c) 1998 Inst for Sci Info

File 40: Enviroline(R) 1975-2001/Nov

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(c) 2001 Cambridge Scientific Abstracts

File 50: CAB Abstracts 1972-2001/Oct

(c) 2001 CAB International

**\*File 50: Truncating CC codes is recommended for full retrieval.**

See Help News50 for details.

File 68: Env.Bib. 1974-2001/Oct

(c) 2001 Internl Academy at Santa Barbara

File 77: Conference Papers Index 1973-2001/Nov

(c) 2001 Cambridge Sci Abs

File 103: Energy SciTec 1974-2001/Sep B2

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 File 162:CAB HEALTH 1983-2001/Oct  
 (c) 2001 CAB INTERNATIONAL  
**\*File 162: Truncating CC codes is recommended for full retrieval.**  
 See Help News162 for details.  
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 (c) 2001 Royal Soc Chemistry  
**\*File 305: Frequency of updates and Alerts changing to weekly.**  
 See HELP NEWS 305.  
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 (c) 2001 ProQuest Info&Learning  
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 (c) 2001 BLHCIS  
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 File 444:New England Journal of Med. 1985-2001/Dec W1  
 (c) 2001 Mass. Med. Soc.  
 File 457:The Lancet 1986-2000/Oct W1  
 (c) 2000 The Lancet, Ltd.  
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 this file is delayed.  
 File 467:ExtraMED(tm) 2000/Dec  
 (c) 2001 Informania Ltd.

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?s bibx1522		
S1	41	BIBX1522
?rd		
>>>Record 156:1365500 ignored; incomplete bibliographic data, not retained in RD set		
>>>Record 156:1358617 ignored; incomplete bibliographic data, not retained in RD set		
...completed examining records		
S2	7	RD (unique items)
?show files;ds;t/3,k/all		
File 5:Biosis Previews(R) 1969-2001/Nov W4		
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(c) 2001 Cambridge Sci Abs		
File 94:JICST-EPlus 1985-2001/Oct W4		
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 (c) 2001 The HW Wilson Co.  
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 File 143:Biol. & Agric. Index 1983-2001/Sep  
 (c) 2001 The HW Wilson Co  
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 File 41:Pollution Abs 1970-2001/Nov  
 (c) 2001 Cambridge Scientific Abstracts  
 File 50:CAB Abstracts 1972-2001/Oct  
 (c) 2001 CAB International  
 File 68:Env.Bib. 1974-2001/Oct  
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 File 35:Dissertation Abs Online 1861-2001/Nov  
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 File 48:SPORTDiscus 1962-2001/Dec  
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 File 159:Cancerlit 1975-2001/Oct  
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 File 164:Allied & Complementary Medicine 1984-2001/Jan  
 (c) 2001 BLHCIS  
 File 442:AMA Journals 1982-2001/Dec B1  
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 File 444:New England Journal of Med. 1985-2001/Dec W1  
 (c) 2001 Mass. Med. Soc.  
 File 457:The Lancet 1986-2000/Oct W1  
 (c) 2000 The Lancet, Ltd.  
 File 467:ExtraMED(tm) 2000/Dec  
 (c) 2001 Informania Ltd.

Set	Items	Description
S1	41	BIBX1522
S2	7	RD (unique items)

Set Items Description  
S1 41 BIBX1522  
S2 7 RD (unique items)  
>>>KWIC option is not available in file(s): 41, 77, 399

**2/3,K/1 (Item 1 from file: 5)**  
DIALOG(R)File 5:Biosis Previews(R)  
(c) 2001 BIOSIS. All rts. reserv.

13124904 BIOSIS NO.: 200100332053

**Epidermal growth factor receptor signaling mediates regranulation of rat nasal goblet cells.**

AUTHOR: Lee Heung-Man; Malm Lars; Dabbagh Karim; Dao-Pick Trang; Ueki Iris F; Kim Suil; Shim Jae Jeong; Nadel Jay A(a)

AUTHOR ADDRESS: (a)Cardiovascular Research Institute, University of California, San Francisco, CA, 94143-0130\*\*USA

JOURNAL: Journal of Allergy and Clinical Immunology 107 (6):p1046-1050  
June, 2001

MEDIUM: print

ISSN: 0091-6749

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

SUMMARY LANGUAGE: English

...ABSTRACT: complete. In the control state EGFR protein staining was absent in the epithelium, but after fMLP-induced degranulation, EGFR protein was expressed. After pretreatment, with \*BIBX1522\*, a selective EGFR tyrosine kinase inhibitor, fMLP-induced degranulation was unaffected, but goblet-cell regranulation was prevented completely. Conclusion: These data suggest a role for...

**2/3,K/2 (Item 2 from file: 5)**  
DIALOG(R)File 5:Biosis Previews(R)  
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13124820 BIOSIS NO.: 200100331969

**Activation of epidermal growth factor receptors is responsible for mucin synthesis induced by cigarette smoke.**

AUTHOR: Takeyama Kiyoshi; Jung Birgit; Shim Jae Jeong; Burgel Pierre-Regis; Dao-Pick Trang; Ueki Iris F; Protin Ursula; Kroschel Peer; Nadel Jay A(a)

AUTHOR ADDRESS: (a)Cardiovascular Research Institute, Univ. of California, San Francisco, CA, 94143-0130: janadel@itsa.ucsf.edu\*\*USA

JOURNAL: American Journal of Physiology 280 (1 Part 1):pL165-L172 January, 2001

MEDIUM: print

ISSN: 0002-9513

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

SUMMARY LANGUAGE: English

...ABSTRACT: of EGFR-specific tyrosine phosphorylation, resulting in upregulation of MUC5AC mRNA and protein production, effects that were inhibited completely by selective EGFR tyrosine kinase inhibitors (\*BIBX1522\*, AG-1478) and that were decreased by antioxidants. In vivo, cigarette smoke inhalation increased MUC5AC mRNA and goblet cell production in rat airways, effects that were prevented by pretreatment with \*BIBX1522\*. These effects may explain the goblet cell hyperplasia that occurs in COPD and may provide a novel strategy for therapy in airway hypersecretory diseases.

**2/3,K/3 (Item 3 from file: 5)**  
DIALOG(R)File 5:Biosis Previews(R)  
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12367534 BIOSIS NO.: 200000121036

**Agarose plug instillation causes goblet cell metaplasia by activating EGF receptors in rat airways.**

AUTHOR: Lee Heung-Man; Takeyama Kiyoshi; Dabbagh Karim; Lausier James A; Ueki Iris F; Nadel Jay A(a)

AUTHOR ADDRESS: (a)Cardiovascular Research Institute, University of California, San Francisco, CA, 94143-0130\*\*USA

JOURNAL: American Journal of Physiology 278 (1 part 1):pL185-L192 Jan., 2000

ISSN: 0002-9513

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

SUMMARY LANGUAGE: English

...ABSTRACT: staining for epidermal growth factor receptor (EGFR) protein, but plugged bronchi showed intense EGFR staining in the epithelium. Pretreatment with an EGFR tyrosine kinase inhibitor (\*BIBX1522\*) prevented Alcian blue-periodic acid-Schiff staining and MUC5AC gene expression in plugged bronchi. Pretreatment with tumor necrosis factor-alpha neutralizing antibody or pretreatment with...

**2/3,K/4 (Item 4 from file: 5)**

DIALOG(R)File 5:Biosis Previews(R)

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11971290 BIOSIS NO.: 199900224603

**Epidermal growth factor system regulates mucin production in airways.**

AUTHOR: Takeyama Kiyoshi; Dabbagh Karim; Lee Heung-Man; Agusti Carlos; Lausier James A; Ueki Iris F; Grattan Kathleen M; Nadel Jay A(a)

AUTHOR ADDRESS: (a)Cardiovascular Research Institute, University of California, San Francisco, CA, 94143-0130\*\*USA

JOURNAL: Proceedings of the National Academy of Sciences of the United States of America 96 (6):p3081-3086 March 16, 1999

ISSN: 0027-8424

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

SUMMARY LANGUAGE: English

...ABSTRACT: rats, three intratracheal instillations of ovalbumin resulted in EGF-R expression and goblet-cell production in airway epithelium. Pretreatment with EGF-R tyrosine kinase inhibitor, \*BIBX1522\*, prevented goblet-cell production both in rats stimulated by TNFalpha-EGF-R ligands and in an asthma model. These findings suggest potential roles for inhibitors...

**2/3,K/5 (Item 1 from file: 34)**

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

(c) 2001 Inst for Sci Info. All rts. reserv.

10160626 Genuine Article#: 491JZ No. References: 43

**Title: Human eosinophils induce mucin production in airway epithelial cells via epidermal growth factor receptor activation**

Author(s): Burgel PR; Lazarus SC; Tam DCW; Ueki IF; Atabai K; Birch M; Nadel JA (REPRINT)

Corporate Source: Univ Calif San Francisco,Cardiovasc Res Inst,Box 0130/San Francisco//CA/94143 (REPRINT); Univ Calif San Francisco,Cardiovasc Res Inst,San Francisco//CA/94143; Univ Calif San Francisco,Dept Med,San Francisco//CA/94143; Univ Calif San Francisco,Dept Physiol,San Francisco//CA/94143

Journal: JOURNAL OF IMMUNOLOGY, 2001, V167, N10 (NOV 15), P5948-5954

ISSN: 0022-1767 Publication date: 20011115

Publisher: AMER ASSOC IMMUNOLOGISTS, 9650 ROCKVILLE PIKE, BETHESDA, MD 20814 USA

Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

...Abstract: CSF or IL-3 plus IL-5 also increased MUC5AC synthesis in NCI-H292 cells, an effect that was prevented by selective EGFR inhibitors (AG1478, \*BIBX1522\*). Supernatant of activated eosinophils induced EGFR phosphorylation in NCI-H292 cells. Supernatant of activated eosinophils contained increased concentrations, of TGF-a protein (an EGFR ligand...

2/3,K/6 (Item 2 from file: 34)

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci  
(c) 2001 Inst for Sci Info. All rts. reserv.

08366826 Genuine Article#: 277AJ No. References: 41

**Title: Oxidative stress causes mucin synthesis via transactivation of epidermal growth factor receptor: Role of neutrophils**

Author(s): Takeyama K; Dabbagh K; Shim JJ; DaoPick T; Ueki IF; Nadel JA  
(REPRINT)

Corporate Source: UNIV CALIF SAN FRANCISCO,CARDIOVASC RES INST, BOX 0130/SAN FRANCISCO//CA/94143 (REPRINT); UNIV CALIF SAN FRANCISCO,CARDIOVASC RES INST/SAN FRANCISCO//CA/94143; UNIV CALIF SAN FRANCISCO,DEPT MED/SAN FRANCISCO//CA/94143; UNIV CALIF SAN FRANCISCO,DEPT PHYSIOL/SAN FRANCISCO//CA/94143

Journal: JOURNAL OF IMMUNOLOGY, 2000, V164, N3 (FEB 1), P1546-1552

ISSN: 0022-1767 Publication date: 20000201

Publisher: AMER ASSOC IMMUNOLOGISTS, 9650 ROCKVILLE PIKE, BETHESDA, MD 20814

Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

...Abstract: the expression of MUC5AC at both mRNA and protein levels in NCI-H292 cells. These effects were blocked by selective EGFR tyrosine kinase inhibitors (AG1478, \*BIBX1522\*) and by a selective MEK inhibitor (PD98059), whereas a selective platelet-derived growth factor receptor tyrosine kinase inhibitor (AG1295), a selective p38 MAPK inhibitor (SB203580...

2/3,K/7 (Item 1 from file: 149)

DIALOG(R)File 149:TGG Health&Wellness DB(SM)  
(c) 2001 The Gale Group. All rts. reserv.

01912074 SUPPLIER NUMBER: 62495087 (USE FORMAT 7 OR 9 FOR FULL TEXT)

**Mechanisms of Airway Hypersecretion and Novel Therapy(\*)**.

Nadel, Jay A.

Chest, 117, 5, 262S

May,

2000

PUBLICATION FORMAT: Magazine/Journal; Refereed ISSN: 0012-3692

LANGUAGE: English RECORD TYPE: Fulltext TARGET AUDIENCE: Professional

WORD COUNT: 3503 LINE COUNT: 00304

... In each study, sterile phosphate-buffered saline solution (100 (micro)L) was instilled into the trachea as control. In inhibition studies, rats were pretreated with \*BIBX1522\* (3, 10, or 30 mg/kg IP, the dose estimated from studies using the inhibitor to prevent cancer growth), 1 h before and 24 h...

...instillation. Rats were euthanized either without IT instillation (day 20), or 48 h after the third IT instillation (day 26). To study the effect of \*BIBX1522\* on goblet cell production in sensitized rats, \*BIBX1522\* was given IP (10 mg/kg) 1 h before the IT instillation of OVA and instilled into the trachea ((10.sup.-5)mol/L, 100 (micro)L) on days 20, 22 and 24. \*BIBX1522\* was also injected IP (10 mg/kg) every 24 h until the day before the rats were euthanized. Forty-eight hours after the third IT...markedly, but the numbers of ciliated and basal cells were unchanged (Table 1). Thus, OVA IP followed by OVA IT caused goblet cell hyperplasia.

Because \*BIBX1522\* prevented mucin production in cultured cells, the effect of this inhibitor was examined in pathogen-free rats. AB/PAS

staining, which was increased by tracheal instillation of TNF-(Alpha) followed by EGF-R ligand TGF-(Alpha), was inhibited dose-dependently by pretreatment with \*BIBX1522\* (Fig 1, top, A). Similarly, three intratracheal instillations of OVA caused a significant increase in goblet cell production, which was inhibited by pretreatment with \*BIBX1522\* (Fig 1, bottom, B).

(Figure 1 ILLUSTRATION OMITTED)

#### DISCUSSION

In this investigation, we examined the role of ECF-R activation in the production of mucins...

?



Set	Items	Description
S1	41	BIBX1522
S2	7	RD (unique items)
S3	4276	(GOBLET (W) CELL?) (S) (METAPLASIA OR PROLIFERAT? OR GROW?)
S4	45	S3 (S) (TYROSINE(W) KINASE?(3N) INHIBIT?)
S5	8	RD (unique items)

>>>KWIC option is not available in file(s): 41, 77, 399

5/3,K/1 (Item 1 from file: 5)  
 DIALOG(R)File 5:Biosis Previews(R)  
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13124904 BIOSIS NO.: 200100332053

**Epidermal growth factor receptor signaling mediates regranulation of rat nasal goblet cells.**

AUTHOR: Lee Heung-Man; Malm Lars; Dabbagh Karim; Dao-Pick Trang; Ueki Iris F; Kim Suil; Shim Jae Jeong; Nadel Jay A(a)

AUTHOR ADDRESS: (a)Cardiovascular Research Institute, University of California, San Francisco, CA, 94143-0130\*\*USA

JOURNAL: Journal of Allergy and Clinical Immunology 107 (6):p1046-1050  
 June, 2001

MEDIUM: print

ISSN: 0091-6749

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

SUMMARY LANGUAGE: English

...ABSTRACT: lower airways and is a hallmark of chronic rhinitis.  
 Objective: The purpose of this study was to elucidate the mechanisms of regranulation (mucus production) of \*goblet\* \*cells\* in nasal epithelium. Methods: Because neutrophils induce an epidermal \*growth\* factor (EGFR) cascade, we induced degranulation of \*goblet\* \*cells\* in rat nasal respiratory epithelium by means of intranasal inhalation of N-formyl-methionyl-leucyl-phenylalanine (fMLP), and we examined regranulation of the \*goblet\* \*cells\* and the role of EGFR inhibitors and neutrophils in the regranulation process. Results: In the control state Alcian blue/periodic acid-Schiff and mucin MUC5AC staining was present. Degranulation was induced in the nasal septal epithelium 4 hours after intranasal inhalation of fMLP (10-7 mol/L); 48 hours later, \*goblet\*-\*cell\* regranulation was complete. In the control state EGFR protein staining was absent in the epithelium, but after fMLP-induced degranulation, EGFR protein was expressed. After pretreatment, with BIBX1522, a selective EGFR \*tyrosine\* \*kinase\* \*inhibitor\*, fMLP-induced degranulation was unaffected, but \*goblet\*-\*cell\* regranulation was prevented completely. Conclusion: These data suggest a role for the EGFR cascade in neutrophil-dependent production of \*goblet\*-\*cell\* mucins. Proving this theory will require the use of selective EGFR inhibitors in clinical studies of nasal hypersecretory states.

5/3,K/2 (Item 2 from file: 5)  
 DIALOG(R)File 5:Biosis Previews(R)  
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13124820 BIOSIS NO.: 200100331969

**Activation of epidermal growth factor receptors is responsible for mucin synthesis induced by cigarette smoke.**

AUTHOR: Takeyama Kiyoshi; Jung Birgit; Shim Jae Jeong; Burgel Pierre-Regis; Dao-Pick Trang; Ueki Iris F; Protin Ursula; Kroschel Peer; Nadel Jay A(a)

AUTHOR ADDRESS: (a)Cardiovascular Research Institute, Univ. of California, San Francisco, CA, 94143-0130: janadel@itsa.ucsf.edu\*\*USA

JOURNAL: American Journal of Physiology 280 (1 Part 1):pL165-L172 January, 2001

MEDIUM: print

ISSN: 0002-9513

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English  
SUMMARY LANGUAGE: English

**ABSTRACT:** Mucus hypersecretion from hyperplastic airway \*goblet\* \*cells\* is a hallmark of chronic obstructive pulmonary disease (COPD). Although cigarette smoking is thought to be involved in mucus hypersecretion in COPD, the mechanism by which cigarette smoke induces mucus overproduction is unknown. Here we show that activation of epidermal \*growth\* factor receptors (EGFR) is responsible for mucin production after inhalation of cigarette smoke in airways in vitro and in vivo. In the airway epithelial cell...

...and induced activation of EGFR-specific tyrosine phosphorylation, resulting in upregulation of MUC5AC mRNA and protein production, effects that were inhibited completely by selective EGFR \*tyrosine\* \*kinase\* \*inhibitors\* (BIBX1522, AG-1478) and that were decreased by antioxidants. In vivo, cigarette smoke inhalation increased MUC5AC mRNA and \*goblet\* \*cell\* production in rat airways, effects that were prevented by pretreatment with BIBX1522. These effects may explain the \*goblet\* \*cell\* hyperplasia that occurs in COPD and may provide a novel strategy for therapy in airway hypersecretory diseases.

**5/3,K/3 (Item 3 from file: 5)**  
DIALOG(R)File 5:Biosis Previews(R)  
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13124817 BIOSIS NO.: 200100331966

**IL-13 induces mucin production by stimulating epidermal growth factor receptors and by activating neutrophils.**

AUTHOR: Shim Jae Jeong; Dabbagh Karim; Ueki Iris F; Dao-Pick Trang; Burgel Pierre-Regis; Takeyama Kiyoshi; Tam Dominic Cheng-Wei; Nadel Jay A(a)

AUTHOR ADDRESS: (a)Depts. of Medicine and Physiology, Cardiovascular Research Institute, Univ. of California, San Francisco, CA, 94143-0130: janadel@itsa.ucsf.edu\*\*USA

JOURNAL: American Journal of Physiology 280 (1 Part 1):pL134-L140 January, 2001

MEDIUM: print

ISSN: 0002-9513

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

SUMMARY LANGUAGE: English

...**ABSTRACT:** morbidity and mortality in acute asthma. Both T helper 2 (M) cytokines and epidermal growth factor receptor (EGFR) signaling have been implicated in allergen-induced \*goblet\* \*cell\* (GC) \*metaplasia\*. Present results show that a cascade of EGFR involving neutrophils is implicated in interleukin (IL)-13-induced mucin expression in GC. Treatment with a selective EGFR \*tyrosine\* \*kinase\* \*inhibitor\* prevented IL-13-induced GC \*metaplasia\* dose dependently and completely. Instillation of IL-13 also induced tumor necrosis factor-alpha protein expression, mainly in infiltrating neutrophils. Control airway epithelium contained few...

...inhibitor of leukocytes in the bone marrow (cyclophosphamide) or with a blocking antibody to IL-8 prevented both IL-13-induced leukocyte recruitment and GC \*metaplasia\*. These findings indicate that EGFR signaling is involved in IL-13-induced mucin production. They suggest a potential therapeutic role for inhibitors of the EGFR...

**5/3,K/4 (Item 4 from file: 5)**  
DIALOG(R)File 5:Biosis Previews(R)  
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12815224 BIOSIS NO.: 200100022373

**EGF regulates early embryonic mouse gut development in chemically defined organ culture.**

AUTHOR: Duh Glenn(a); Mouri Naruaki; Warburton David; Thomas Dan W  
AUTHOR ADDRESS: (a)Division of Gastroenterology and Nutrition, Childrens  
Hospital Los Angeles, 4650 Sunset Blvd., Mailstop 78, Los Angeles, CA,  
90027\*\*USA  
JOURNAL: Pediatric Research 48 (6):p794-802 December, 2000  
MEDIUM: print  
ISSN: 0031-3998  
DOCUMENT TYPE: Article  
RECORD TYPE: Abstract  
LANGUAGE: English  
SUMMARY LANGUAGE: English

...ABSTRACT: of 1-10 ng/mL of exogenous epidermal growth factor (EGF) or 10-25 µM of the tyrphostin 3,4,5 trihydroxybenzene malononitrile, a specific \*inhibitor\* of EGFR \*tyrosine\* \*kinase\*, on intact E12 Swiss-Webster mouse midgut grown in chemically defined organ culture using Fitton-Jackson BGJb medium for 4 or 6 d. Intestinal development...  
...acid binding protein mRNA, and immunohistochemistry for epithelial proliferative markers. During organ culture, control specimens grew in length, developed smooth muscle, simple columnar epithelial and \*goblet\* \*cell\* phenotypes, showed early villus formation in the proximal intestine, and increased expression of villin and intestinal fatty acid binding protein mRNA. EGF failed to significantly alter small intestinal lengthening, whereas EGF 10 ng/mL inhibited colonic length \*growth\*. Tyrphostin 25 µM resulted in regional losses of stromal and smooth muscle cells in the small intestine and absent colonic \*goblet\* \*cells\*. In controls, cellular \*proliferation\* initially occurred throughout the small intestinal epithelium but became increasingly localized to the intervillus crypt regions. This sequestration of epithelial \*proliferation\* into crypts was much more apparent in EGF-treated versus tyrphostin-treated specimens. EGFR activation, therefore, appears to accelerate the maturation rate of \*goblet\* \*cells\* and the differential crypt/villus \*proliferation\* pattern in early embryonic mouse gut.

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**Agarose plug instillation causes goblet cell metaplasia by activating EGF receptors in rat airways.**

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JOURNAL: American Journal of Physiology 278 (1 part 1):pL185-L192 Jan., 2000  
ISSN: 0002-9513  
DOCUMENT TYPE: Article  
RECORD TYPE: Abstract  
LANGUAGE: English  
SUMMARY LANGUAGE: English

ABSTRACT: We hypothesized that foreign bodies in airways cause inflammation leading to \*goblet\* \*cell\* \*metaplasia\*. Instilled agarose plugs lodged in the bronchi of pathogen-free rats caused a time-dependent increase in Alcian blue-periodic acid-Schiff staining that was detected within 24 h and markedly increased at 72 h. Control bronchi contained no pregoblet or \*goblet\* \*cells\*, but plugged bronchi contained many pregoblet and \*goblet\* \*cells\* and a decrease in nongranulated secretory cells. In situ hybridization showed no expression of MUC5AC in control airways, but plugged airways showed a marked expression. Control bronchi showed sparse staining for epidermal \*growth\* factor receptor (EGFR) protein, but plugged bronchi showed intense EGFR staining in the epithelium. Pretreatment with an EGFR \*tyrosine\* \*kinase\* \*inhibitor\* (BIBX1522) prevented Alcian blue-periodic acid-Schiff staining and MUC5AC gene expression in plugged bronchi. Pretreatment with tumor necrosis

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S3	4276	(GOBLET (W) CELL?) (S) (METAPLASIA OR PROLIFERAT? OR GROW?)
S4	45	S3 (S) (TYROSINE(W) KINASE?(3N) INHIBIT?)
S5	8	RD (unique items)